

 Roland

RHYTHM COMPOSER

TR-808

OWNER'S MANUAL



The Roland TR-808 Rhythm Composer is a unique and versatile rhythm device that can be used in a number of ways. Among its many operating features is its ability to write and record thirty two percussive rhythms incorporating up to eleven different sounds plus accents. Each of these percussion sounds has its own level control for full mixing flexibility over the total sound, and each sound also has its own separate output so that it can be mixed or processed separately from the others.

Programming of the Rhythms can be accomplished either in or out of real time by means of a Step programming method which basically breaks each beat down into a series of steps, which can be varied to suit the desired rhythm. Each beat (or quarter note), can be divided into 3, 4, 6, 8, individual steps so that rhythms can be written incorporating as small a division as thirty-second notes.

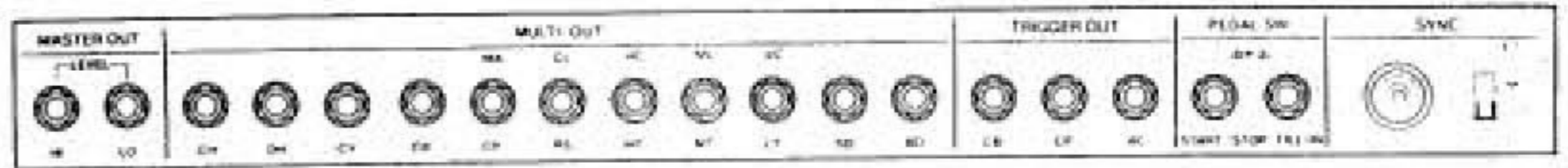
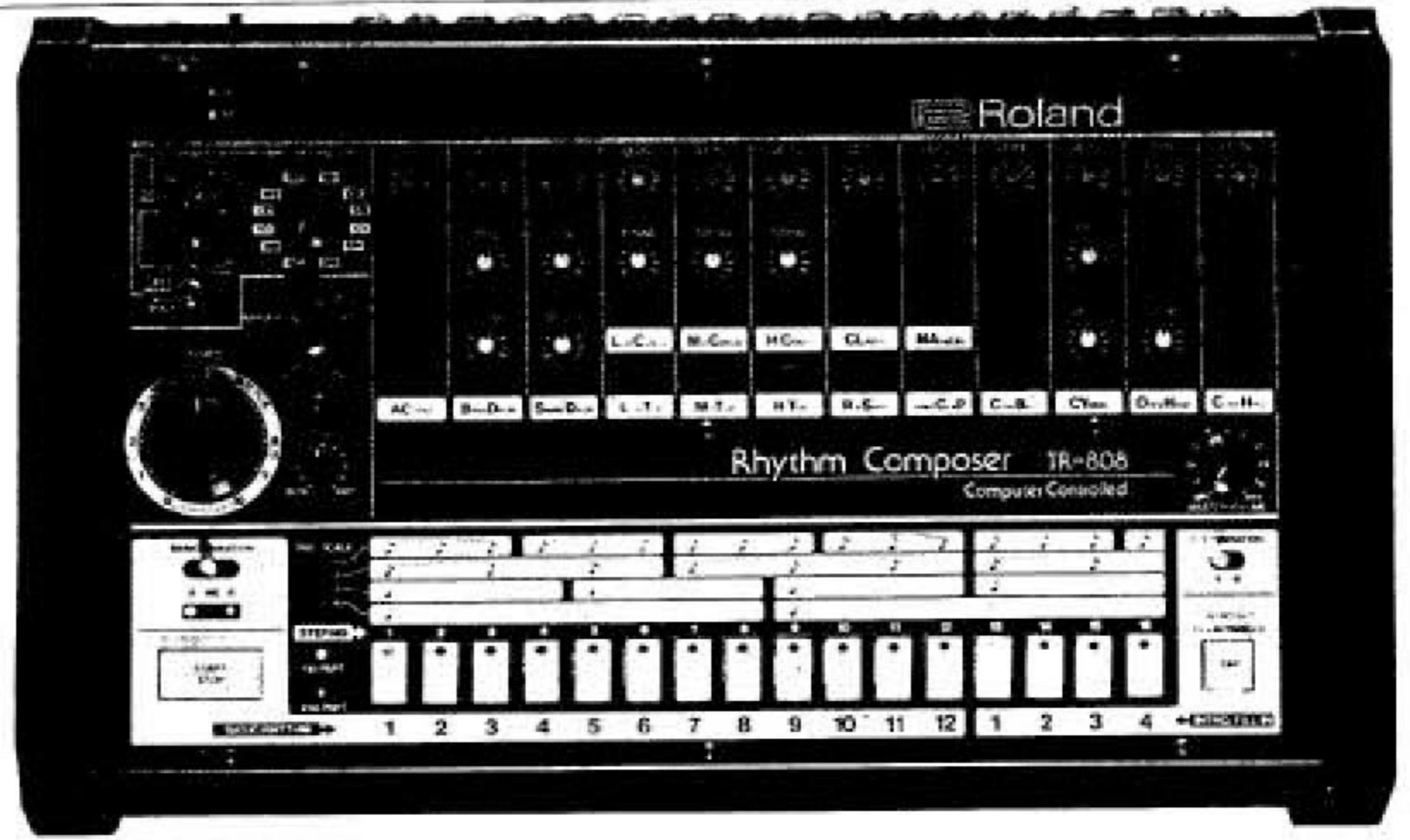
Once the various rhythm patterns are written and stored in computer memory, they can be arranged to perform an entire composition's percussion track by means of a Compose function. The track can last up to 768 measures. The memory can also be used in individual increments of 64 measures each to play up to twelve different songs.

Three separate Trigger Outputs allow the TR-808 to be connected to various digital sequencers, synthesizers or other such devices for synchronized control of sound. Other performance features such as automatic insertion of Introduction or Fill In rhythms as well as remote control over both this and the Start/Stop function expand the TR-808's uses into live performance in addition to its obvious applications in recording and composing music.

Table of Contents

Introductions	1
Front and Back Panel Layout	2
Control Descriptions	3
Basic Connections	6
Playing Rhythm Patterns	11
Writing Rhythm Patterns	13
Composing the Rhythm Track	19
Specifications	22

Front and Back Panel Layout



Power On/Off Switch This push-On/push-Off switch controls the flow of A.C. power to the TR-808 Rhythm Composer. The power must be switched 'On' for the TR-808 to perform any function. The 'On' status may be verified using any of the various LED lights on the front panel.

Mode Selector The MODE selector is the knob located in the extreme upper left hand corner of the TR-808 control panel, used for both programming and playing operations and for memory protection as described

in the Basic Connections section of this manual. Moving clockwise from the lower left the MODE options include: PATTERN CLEAR, 1st PART, 2nd PART, MANUAL PLAY, PLAY, and COMPOSE

Rhythm Programming Modes The first three yellow color-coded positions relate to programming Rhythm Patterns into the TR-808. The boxed PATTERN CLEAR position allows any of the 32 programmed Rhythm Patterns to be wiped from the memory, preparing their memory positions to be reprogrammed. The actual CLEAR function is activated with the red CLEAR button located below the MODE selector.
1st part position selects the first section of individual measure to be programmed with rhythm information. If the rhythms you are programming are made up from 16 or less evenly spaced increments, the 1st position may be used as a complete single measure by itself.

The 2nd part allows the selection of the second section of an individual measure to be programmed with rhythm information. By combining the 1st part and 2nd parts with suitable PRE-SCALE information it is possible to write rhythms with up to 32 evenly spaced increments for writing complex or subtly flexible rhythms of virtually any time signature. The relationship of the 1st part and 2nd part sections of any measure is determined by the PRE-SCALE programming for that measure, as described in the Writing Rhythm Patterns section of this manual.

Play Modes The MANUAL PLAY Mode allows you to play any of the 32 TR-808 Rhythm patterns as you would a conventional rhythm machine, with the addition of automatic switching for intros, and-fills. MANUAL PLAY and PLAY are the only two Mode positions that will protect your programmed memories when the TR-808 is switched off or disconnected.

The PLAY Mode allows a selection of up to 12 independently programmed rhythm compositions to be played with a combined maximum memory of 768 bars. These tracks are selected by the INSTRUMENT/TRACK selector to the right of the MODE selector

Compose Mode The Compose Mode position allows the 16 rhythms programmed into the TR-808 to be combined into compositions (Tracks) and programmed into any one or more consecutive memories selected by the INSTRUMENT/TRACK selector positions. To COMPOSE within any of the 12 memories, that memory

must first be cleared using the red CLEAR button. The actual programming of the 16 available rhythms into compositions is done using the STEP buttons along the bottom of the TR-808.

Instrument/Track Selector This 12 position selector serves a dual purpose. During the programming of Rhythm Patterns it is used to select which of the 11 different drum voices or the Accent is being programmed. Clockwise from the lower left the choices include AC (ACCENT), BD (BASS DRUM), SD (SNARE DRUM), LT (LOW TOM or LOW CONGA), MT (MID TOM or MID CONGA), HT (HI TOM or HI CONGA), RS (RIM SHOT or CLAVES), CP (HANDCLAP or MARACAS), CB (COWBELL), CY (CYMBAL), OH (OPEN HIHAT), and CH (CLOSED HIHAT). When two options are

available, the instrument to be played is determined by switches within the Instrument section. It makes no difference which of the two instruments is programmed, either may be selected to play back from the same program.

The second function of the control is as a selector for the 12 memories used in composing Rhythm Tracks. Each of the memories contains storage for 64 measures of the track, and can be accessed individually for programming or playback when com-

posing The Rhythm Track, it is only necessary to select the memory position for the beginning of the track. While in the Compose Mode, track switching

is done automatically. Once you have used up the memory available in one position the TR-808 automatically switches to the next track.

Tempo Control

Used for coarse selection of the TEMPO, this control features forty click-stop positions for increased precision when setting or resetting a Rhythm pattern's tempo. To provide even more precise defini-

tion a FINE control located to the right of the TEMPO control varies the tempo slightly beyond the range of each of the TEMPO control's click stop positions.

Auto Fill In Selector

The AUTO FILL IN selector is used to insert fill rhythms into the MANUAL PLAY Mode of the TR-808. When the AUTO FILL IN selector is in the MANUAL position, Fill In Rhythms are inserted manually by pressing the TAP button.

Automatic insertion of Rhythms is accomplished in any of the other positions marked 16, 12, 8, 4 and 2. When set at these positions the Fill In Rhythm selected will play every 16th measure, every 12th measure, and so on.

Voice Selectors

These selectors, located over most of the upper half of the panel are used for the mixing and in some cases, voicing and selecting the various instrument sounds available on the TR-808.

The ACCENT, located at the extreme left of these selectors is used to give emphasis to any other voice programmed on the same step. The LEVEL control sets the amount of emphasis given to the other voices.

The BASS DRUM has variable LEVEL, TONE, and a DECAY control that either allows the drum to ring or to be muffled.

The SNARE DRUM has variable LEVEL, TONE, and a SNAPPY control that simulates the sound of the snares moving closer to and farther from the bottom drum head.

The three TOMs have variable LEVEL, TUNING and can also be switched to become Congas. The RIM SHOT, HAND CLAP, and COW BELL have variable LEVEL and RIM SHOT and HAND CLAP can be switched to become, respectively, CLAVES and MARACAS.

The three Cymbal voices all have variable LEVEL. The CYMBAL voice, which remarkably duplicates a crash cymbal sound, features a TONE control and also a DECAY control to simulate the sound of hitting the Cymbal closer or further from the bell. The OPEN HI HAT sound also features DECAY and this sound is especially effective used in conjunction with the CLOSED HI HAT.

VOICE selectors are variable during both writing Rhythm Patterns and Composing Rhythm Tracks as well as during both PLAY Modes.

Step Buttons

STEP buttons select which Rhythm is played and are divided into two groups: BASIC RHYTHMS which number 1-12, and INTRO/FILL INs which number 1-4. Normally the BASIC RHYTHMS have priority in they play first when the START/STOP button is pressed. This priority is indicated by their LEDs

flashing. Priority can be assigned to the INTRO/FILL INs by pressing the TAP button.

The STEP buttons are also used in programming Rhythm Patterns as you will see in the section dealing with programming.

Basic Variation Switch

The BASIC VARIATION switch selects which of the two Modes (A or B) will be played when one of the STEP buttons is pressed. Each of the STEP buttons has two Modes (of one Measure each) which will independently (for a total of 32 different rhythms) or can be played together for a two measure Rhythm. The A Mode plays the A Rhythm while the B Mode

does like-wise. The LED indicators beneath this switch indicate which Mode will play first when in the STOP position and which Mode is playing when the Rhythm is running. When the BASIC VARIATION switch is set to AB the TR-808 will first play the A Mode followed by the B Mode and then repeating in the same manner.

I/F Variation Switch Performs in exactly the same manner as the BASIC VARIATION switch, but is used only for the INTRO/FILL INs. The playing of A and B I/F VARIATIONS are also indicated by the Variation LEDs.

Start/Stop Button Begins or ends the playing of a programmed Rhythm or Rhythm Track.

Tap Button Used for Manual insertion of INTROs and FILL INs and is also used for Manual Programming in Real time.

Master Volume Sets the overall output volume of the TR-808.

IMPORTANT: One basic caution should be observed each time the TR-808 is used to assure the protection of its programs and circuitry. Before the TR-808 is connected or disconnected from its power source, switched 'On' or 'Off', or any connection to other equipment is made or broken:

Caution—To afford the ultimate protection to the digital circuitry of your TR-808 make all connections to other equipment with both units' power switched 'Off'. Once all connections are made, switch 'On' the power to the other units first, the TR-808 last. This procedure will give the maximum protection against power surges that might possibly damage the digital circuitry within the TR-808.

It should also be noted that when using the TR-808 by itself (without interfacing to other units using the SYNC connection), the SYNC INPUT/OUTPUT switch on the rear panel should be set to the OUTPUT position. The TR-808 will not operate on its own with this switch in the INPUT position.

Choosing Amplification

The TR-808 Rhythm Composer may be monitored through any conventional amplification, but ideal amplification will reproduce its realistic drum sounds faithfully with a minimum of added distortion and coloration.

Amplification and speakers with a wide frequency response are necessary to reproduce the TR-808's sounds which range from the high frequencies of the six-oscillator CYMBAL sound to the bass punch of the BASS DRUM. Avoid equipment or speakers chosen to color the sound to suite a particular instrument such as a guitar or bass guitar. These amplification setups influence the sound considerably and in their efforts to aid one specific type of sound severely limit many others.

The TR-808's percussive, accented sounds produce sudden high level output signals which may cause distortion in the pre-amplifier section of amps not built to handle them. Amplification for the TR-808 should be capable of accepting this signal without breaking up or distorting and still produce sufficient final volume levels. The MASTER OUT section on the back panel of the TR-808 includes both HI and LO gain outputs to assist in matching the output level to external amplification. These outputs combine with the individual Instrument LEVEL controls and the MASTER VOLUME control to allow very precise control over the TR-808 output level and balance.

Level Matching

When using amplification with both Hi and Lo gain inputs begin by matching the Hi gain output of the TR-808 to the Lo gain input of your amp. Listen to this combination, then compare the Lo output to Hi input and choose the combination with the lowest noise level. If distortion is present and more headroom is needed at the pre-amp, send the TR-808 Lo gain output to the Lo gain input of the amplifier. Amplification with variable input attenuation should be stepped far enough to allow sufficient headroom for your most complex, demanding sounds.

To check your amplification, set each Instrument

LEVEL control to approximately the 2 o'clock position, set the MASTER VOLUME control to a central position, and play various rhythms with the TR-808. Listen carefully for any fuzziness, lack of crispness, fragmented attacks or other evidence of distortion. Adjust your connections and level settings, trying to achieve the cleanest possible sound while maintaining a sufficient volume level. On amps with a separate Pre-amp and Master Volume controls it is usually best to set the Pre-amp for a clean signal and adjust the Master Volume of the amp if you need extra level.

Audio Outputs

The TR-808 offers a complete selection of Audio Outputs to give you creative control over its sounds. The MASTER OUT jacks already mentioned are summed outputs, combining the outputs of each instrument within any given program in proportion to own Instrument Level Control. This summed output is acted upon as a whole by the MASTER VOLUME control before it is sent to the HI and LO MASTER OUT jacks.

The TR-808 back panel also includes a separate

MULTI OUT jack for each individual instrument. Connecting any of these jacks removes that instrument from the summed MASTER OUT signal, sending it off separately at a level determined by its own instrument LEVEL control. The MASTER VOLUME control has no effect on these outputs. These individual instrument Outputs allow effects to be added or fine adjustments to be made to individual drum sounds, or allows complete control over a stereo drum mix.

Connection Cords

The TR-808 is provided with a low noise connection cord terminating in a 1/4 inch phone jack for output connection on the other end. The 1/4 inch phone jack adapter will be used for most amplification connection.

The RCA jack offers access to most component hi-fi systems, a significant advantage when the TR-808 is used for practice or composition at home without the inconvenience of transporting and setting up stage amplification. Connect the TR-808 LO MASTER OUT to an AUX. or TAPE input, avoiding the PHONO inputs with their special internal equalization. The TR-808 will appear at one speaker only

unless a 'Y' cable or junction box such as the Roland Boss J-5 is used, or unless your hi-fi has a master Mono/Stereo selector. **IMPORTANT NOTE:** Begin with the MASTER VOLUME on your TR-808 set at Zero, and the hi-fi at normal or lower than normal levels. By gradually raising the TR-808 level and using caution as different programs and instrument levels are selected you can easily avoid high level signals that might otherwise damage sensitive hi-fi equipment.

The RCA jack also offers instant access to many multi-track tape recorders and consoles, a distinct advantage considering the unique functional abilities of the TR-808 Rhythm Composer.

Trigger Outputs

The TR-808 Rhythm Composer provides three independent, programmable Trigger Outputs to allow interfacing with synthesizers or sequencers. Each trigger signal is a positive 15 Volt, 20 millisecond pulse suitable for activating either the Trigger or Gate inputs of most major brands of equipment

A synthesizer such as the Roland SH-09 or SH-2 may be Gated to process its own oscillators or to process one of the TR-808 outputs. By combining a solo synthesizer such as the SH-09 with a sequencer such as one of the Roland CSQ digital series, the TR-808 Triggers will start and/or step the sequencer/synthesizer combination for programmed musical lines that may also be used to control

the rhythm and rate of the Arepeggio sections of the Roland Jupiter polyphonic synthesizers.

The three Trigger Outputs correspond to rhythms programmed into the CB (COWBELL), CP (HAND-CLAP) and/or the AC (ACCENT) respectively, rhythms determined by the INSTRUMENT/TRACK selector and programming. These instruments may be used simultaneously with their Trigger Outputs or programmed specifically to provide Trigger Output rhythms, silencing the instruments using the individual Instrument LEVEL control

Figure 1 illustrates various interfacing applications for the Trigger Outputs.

Pedal Switching

The TR-808 is equipped with two 1/4 inch Pedal Switch jacks for connection with optional Roland DP-2 Damper pedals. These jacks provide remote control options for the Start/Stop function and the

Fill-In function without defeating those functions at the front panel START/STOP button and TAP button respectively.

Sync In/Out

The SYNC In/Out section of the TR-808 allows it to be synchronized perfectly with units such as the Roland CSQ-600 Digital Sequencer, allowing each unit total rhythmic freedom while remaining in perfect tempo with one another. This interfacing uses the exclusive TR-808 PRE-SCALE and the CSQ-600 SYNC LOAD functions and controls the tempo, starting and stopping of both units from the CSQ-600.

The TR-808 may also be Sync'd to the Arpeggio section of the Roland Jupiter 8 polyphonic synthesizer.

To Sync two units, connect a five pin DIN cord to

the SYNC jack on each unit and move the TR-808 SYNC switch to the INPUT position for connection to the CSQ-600, or to the OUTPUT position for connection to the Jupiter-8. Remember that the SYNC switch must be in the OUTPUT position for the TR-808 to operate by itself.

The TR-808 may also be Sync'd to the Roland MC-4 polyphonic sequencer, using either the TR-808 or the MC-4 to control the other unit. For more details refer to the MC-4 owners manual.

Refer to Figure 1 for several specific applications of the SYNC connection.

Memory Back-up

The TR-808 Rhythm Composer features a non-volatile memory which will retain rhythm programs and track compositions when switched off and disconnected. The TR-808 relies on batteries as a back-up circuit to protect these memories.

The TR-808 batteries must be replaced once a year to ensure proper operation.

To replace the three 1.5 Volt dry cell batteries:

1) Connect the TR-808 to power and switch it 'On' to protect its memories while replacing the bat-

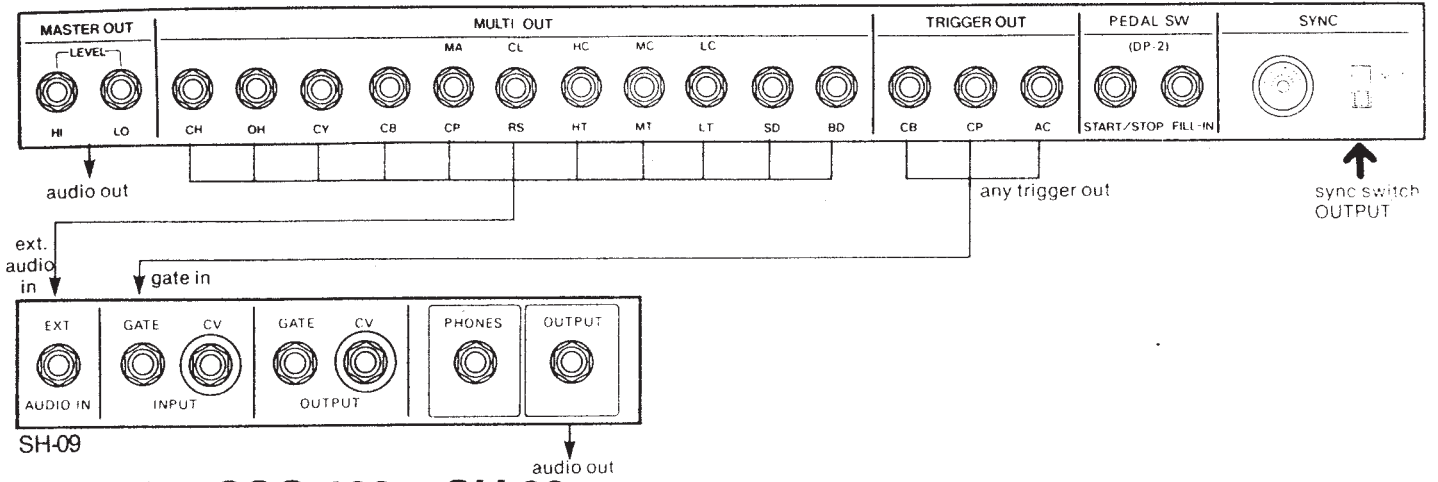
teries. Be sure to have the MODE selector in either the MANUAL PLAY or PLAY position.

- 2) Open the battery cover on the bottom of the TR-808 body using a coin or screwdriver.
- 3) Remove old batteries from the battery case. ALWAYS REPLACE THE ENTIRE SET OF BATTERIES.
- 4) Insert new batteries, making sure that their polarities are correct as indicated in the battery case.
- 5) Close the cover, insert and tighten the retaining screw.

Fig. 1

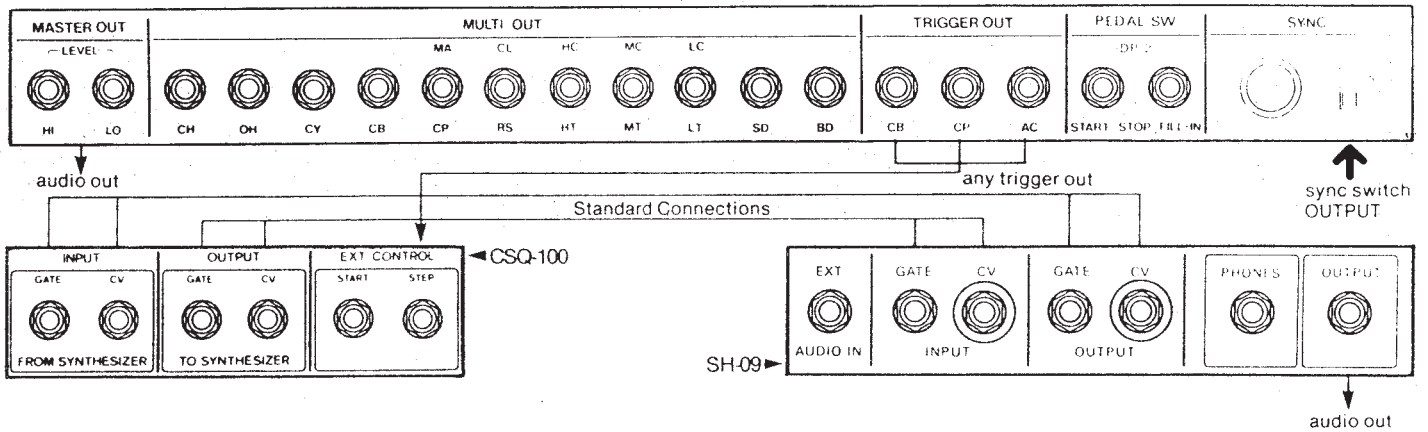
TR-808 + SH-09

TR-808



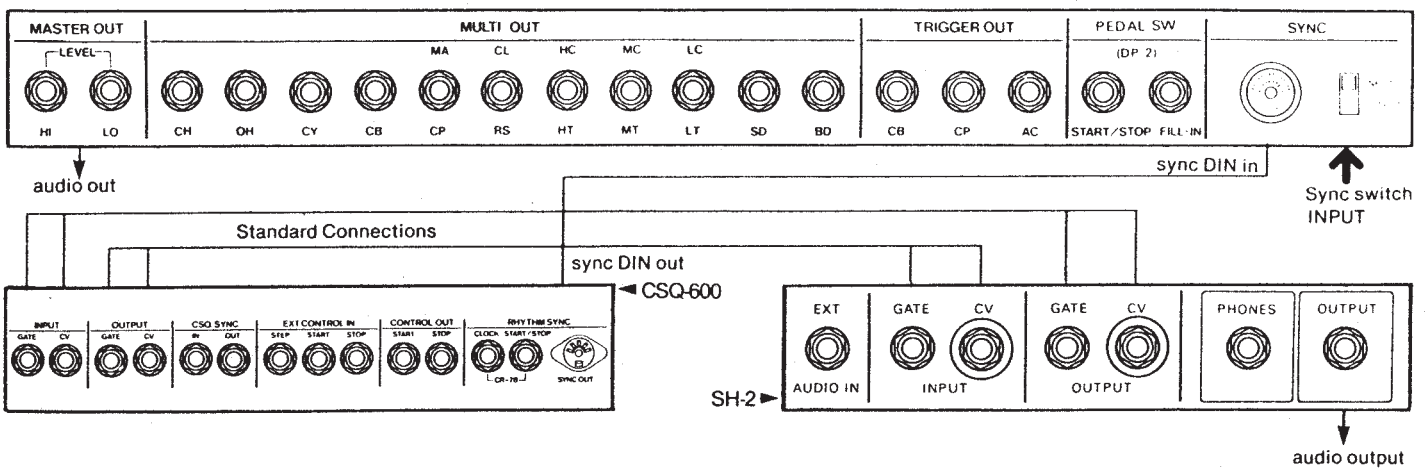
TR-808 + CSQ-100 + SH-09

TR-808



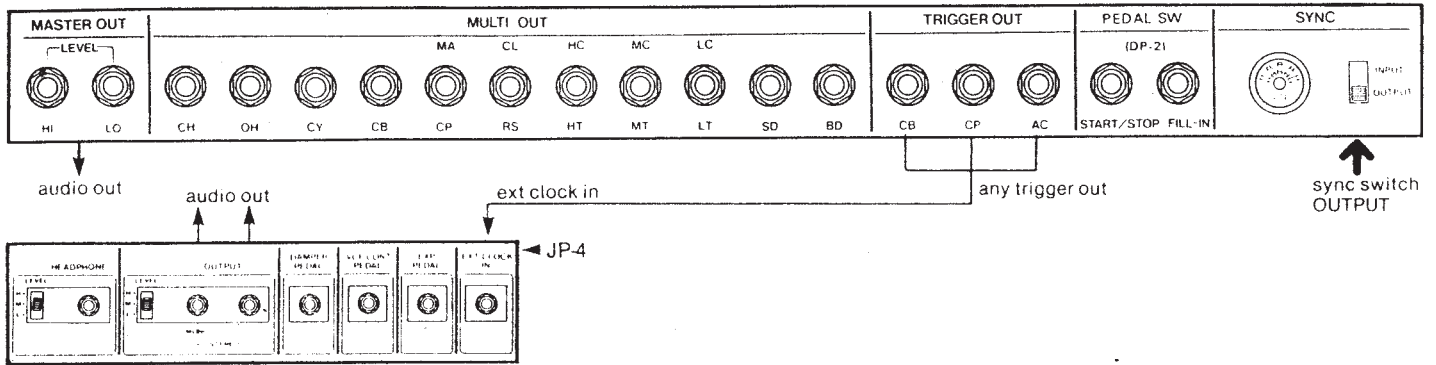
TR-808 + CSQ-600 + SH-2

TR-808



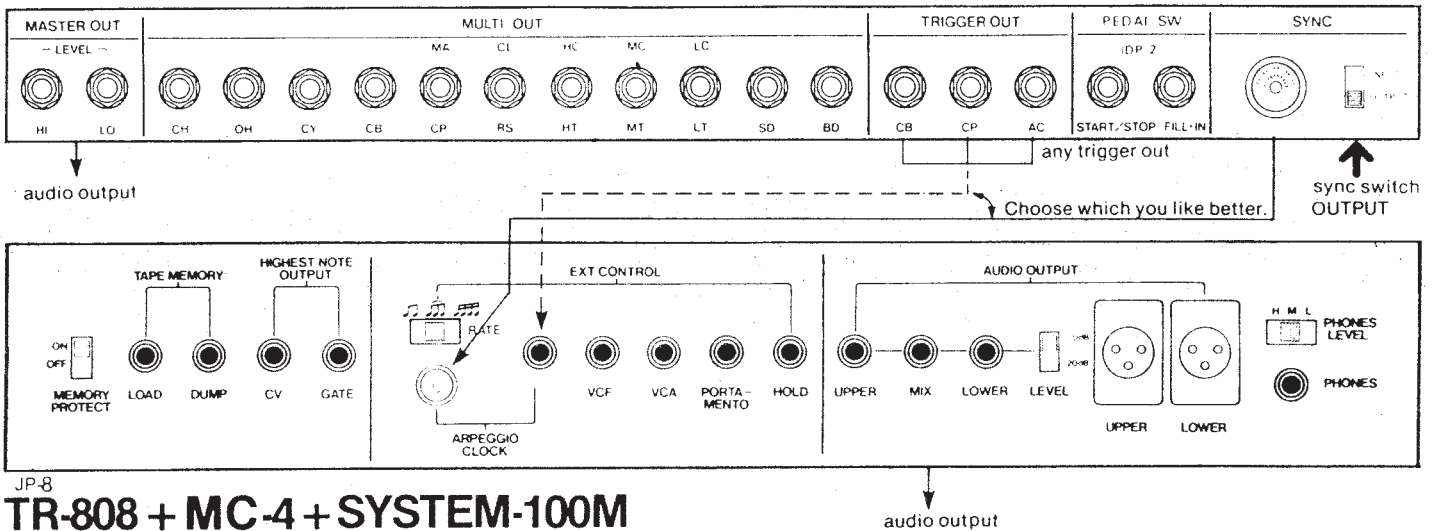
TR-808 + JP-4

TR-808



TR-808 + JP-8

TR-808



JP-8

TR-808 + MC-4 + SYSTEM-100M

TR-808

