



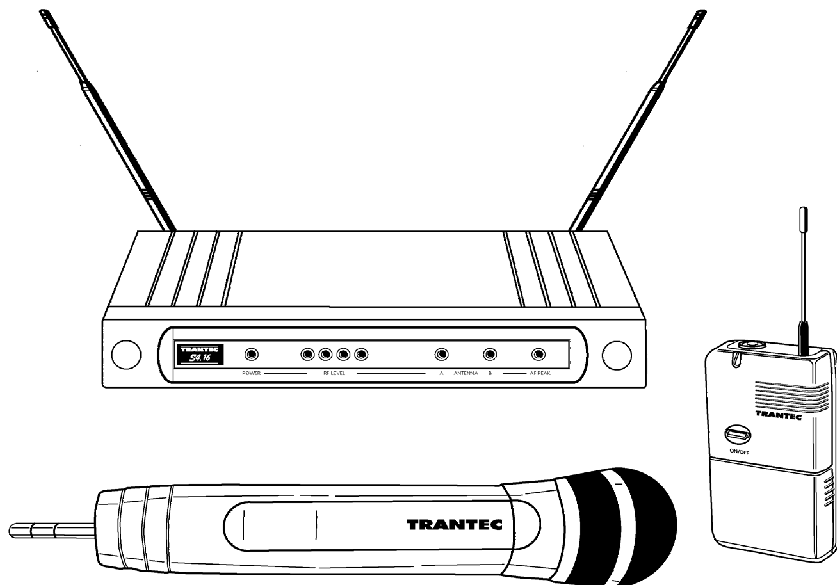
S4.16

UHF
WIRELESS
SYSTEM

OPERATING MANUAL

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INTRODUCTION

The Trantec S4.16 Series represents Trantec's commitment to providing high-quality, affordable Wireless Audio Links using our considerable design expertise gained over many years as a leading edge manufacturer.

We would like to thank you for purchasing this product and would like you to spend a short time reading this *Operations Manual* so as to familiarise yourself with the features of the Trantec S4.16 series.

SAFETY

Our aim is to supply you with a product that provides you with countless hours of trouble free use.

In order to achieve these goals, we recommend the following:-

Keep the system away from direct sources of heat e.g. Central heating radiators, heaters and direct sunlight.

Should the Transmitters not be used for extended periods of time we recommend that the batteries are removed to avoid any potential leakage.

Keep the system clean by using a slightly damp cloth. Never use household cleaning agents or solvents.

Avoid using or storing the system in damp conditions.

Always use the AC power adaptor supplied with the Receiver and *never remove* the external covers of the equipment, so as to expose the electronics.

S4.16 SYSTEM OVERVIEW

The Trantec S4.16 is a high-quality UHF Wireless Microphone System. The S4.16 has many features including:-

- >> 16 User Selectable Channels.
- >> Diversity Receiver Operation - to minimise drop-outs.
- >> User Adjustable Audio Output Level - adjustable on both Jack and XLR outputs.
- >> User Adjustable RSSI/Squelch - enables the user to minimise external interference.
- >> Rear Mount Detachable Antennas.
- >> Includes 4 Licence Free Channels.
- >> 19" Rack Mount plate available.

THE S4.16 COMPRISES 2 BASIC DIFFERENT VARIATIONS:-

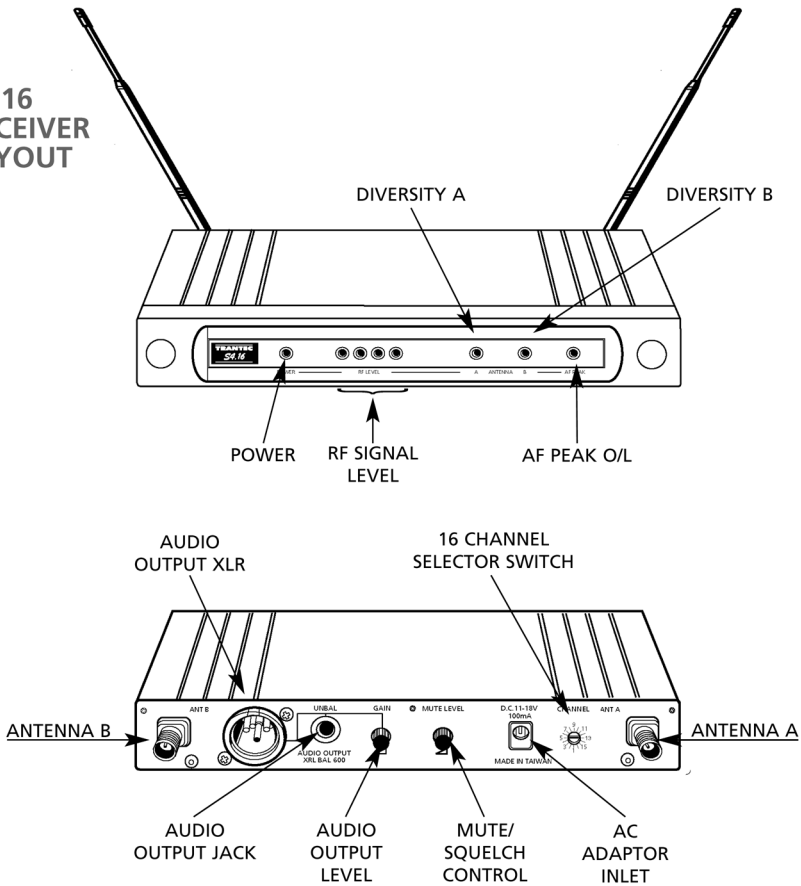
The Handheld System and the Beltpack Presenters/Instrument System.

The Handheld System comprises a fully integrated Handheld Microphone incorporating a Cardioid Dynamic Capsule and is most suited to General Vocal Applications.

The Beltpack System comprises a Beltpack Transmitter which is supplied with a small Lapel style clip-on Microphone and is ideally suited for General Presentation/ Theatre applications.

In addition the Beltpack Transmitter is supplied with an Instrument Cord. This cord enables the beltpack to be used with electric instruments e.g. Guitars and other high impedance applications.

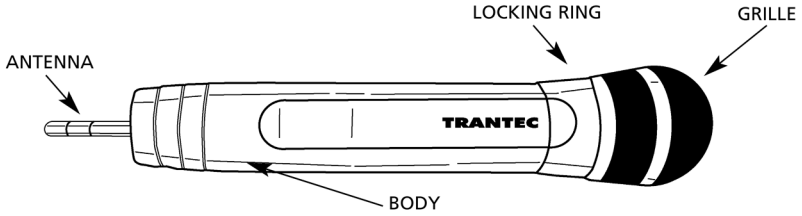
S4.16 RECEIVER LAYOUT



RECEIVER OPERATION

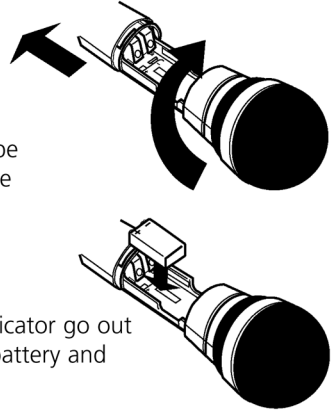
1. Connect the appropriate AC adaptor into the DC inlet as marked on the rear panel and observe the Supply indicator (green Led) lights up.
2. To provide best diversity operation, attach the antennae and angle them to form a "V" (as per illustration) ensuring they have a good line-of-sight view of the corresponding transmitter. i.e. Avoid placing large metallic objects in the transmission path.
3. Initially set the receiver AF gain control to its mid-position and connect the AF output from either the 1/4 inch Jack or XLR to your Mixing console or amplifier.
4. Select rear panel Channel Selector Switch (Small screw-driver adjust) to correspond to Transmitter setting. It is possible to select any of the 16 channels. (Factory set to position 1).

S4.16 HANDHELD LAYOUT



HANDHELD BATTERY INSERTION

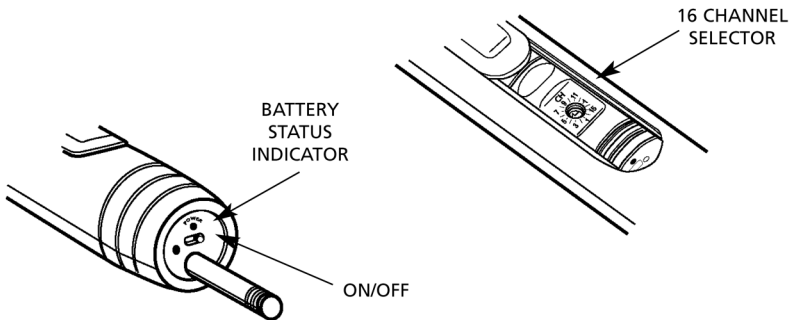
1. Rotate the top collar locking ring in the direction indicated in the illustration and gently pull the body downwards.
2. Insert a 9V MN1604 (IEC 6 LR61) PP3 type alkaline battery, being sure to observe the correct polarity as marked.
3. Gently slide the body upwards and lock.



Note: Should the Red battery status Led Indicator go out during operation, this indicates a flattened battery and that it should be changed.

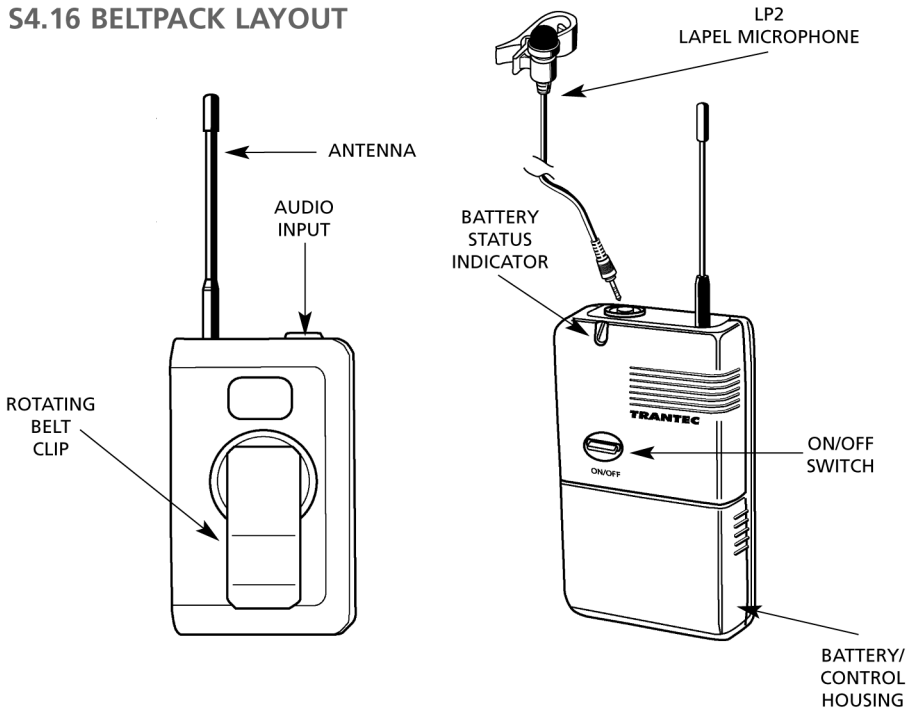
CHANNEL SELECTION. (Small screw-driver adjust)

With the Transmitter in the OFF position select a channel to correspond with the Receiver. It is possible to select any of the 16 channels.
(Factory set to position 1).



Note: If the Transmitter Active Channel has been changed whilst in the **ON** position, it must be turned **OFF** and then **ON** again to complete selection.

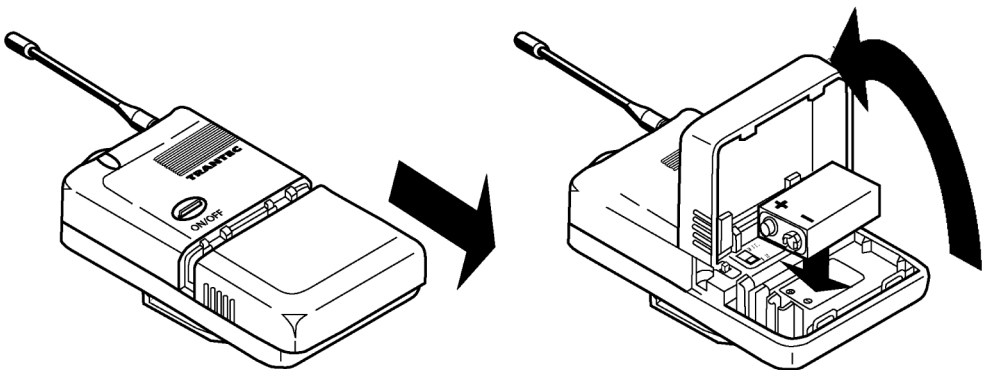
S4.16 BELTPACK LAYOUT



BELTPACK BATTERY INSERTION

1. Slide the battery compartment to the rear and hinge upwards to expose the battery.
2. Insert a 9V MN1604 (IEC 6 LR61) PP3 type alkaline battery, being sure to observe the correct polarity as marked.

Note: Should the Red battery status Led Indicator go out during operation, this indicates a flattened battery and that it should be changed.



MICROPHONE CONNECTION

1. Connect small lapel-type microphone into the corresponding 3.5mm Top Panel Socket.
2. Ensure that the Battery Compartment **MIC/INST** switch is set to **Mic** position.
3. Clip the microphone to your clothing (normally Tie or Jacket Lapel). Route the mic cable so as to avoid undue strain or friction. Try and keep the mic cable away from the **ANTENNA**

The microphone supplied with the S4.16 has an Omni-directional response, which means it will pick up sounds from all directions. In view of this we recommend that the microphone is placed as close as possible to the required sound source.

INSTRUMENT CONNECTION

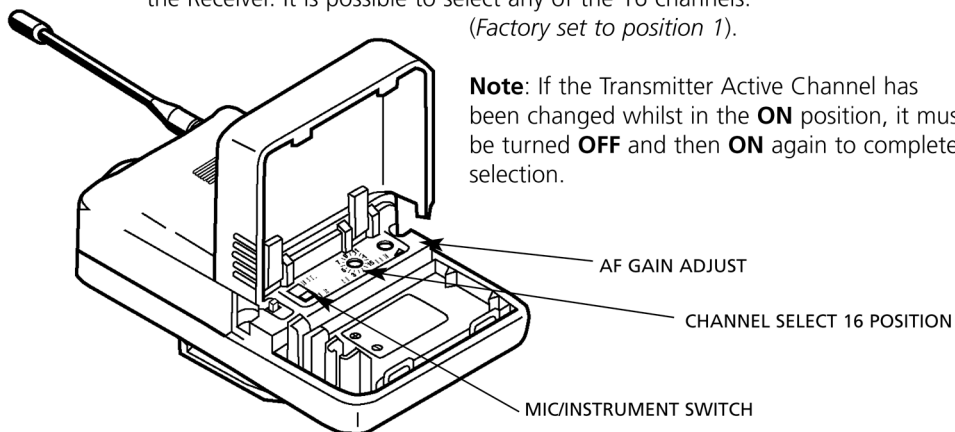
1. Connect the supplied Instrument cord into the corresponding 3.5mm Top Panel Socket.
2. Ensure that the battery compartment **MIC/INST** switch is set to **INST** position

BELTPACK GAIN CONTROL ADJUSTMENT. (Small screw-driver adjust)
If required adjust the Transmitter AF gain control so the signal only very occasionally allows the **Red AF O/L Peak Led** on the receiver to light.

CHANNEL SELECTION (Small screw-driver adjust)

With the Transmitter in the **OFF** position, select a channel to correspond with the Receiver. It is possible to select any of the 16 channels.
(Factory set to position 1).

Note: If the Transmitter Active Channel has been changed whilst in the **ON** position, it must be turned **OFF** and then **ON** again to complete selection.



GENERAL SETUP AND OPERATING HINTS

1. **DISTANCE.**

To maximise operating distance (approximately 100m). We recommend you follow the guidelines below.

- a. Ensure good line of sight between Transmitter and Receiver. Do not place large obstructions between receiver and transmitters e.g. Concrete walls, large metal obstructions. In addition keep the receiver away from metallic beams and obstructions as these can adversely affect the Antenna Pick-up Pattern and induce interference.
- b. Always ensure that the Transmitter is at least 3m (10 feet) away from the Receiver.
- c. Conduct a "Walk test" which involves you moving the Transmitter in the area where transmission is required whilst noting the received RF signal strength on the receiver bargraph. Reception is best with all 4 Leds lit.
- d. Never position the Transmitter Antenna directly against the body or hand. This will reduce the operating range considerably.

2. **SQUELCH/RSSI SET UP.**

The S4.16 incorporates a Fixed Noise Squelch and a variable "Received Signal strength" Mute Control on the rear panel of the Receiver. This function is to reduce or eliminate the effect of interference from outside sources.

Note: Trantec cannot guarantee multi-channel compatibility with other brands/make of product.

To adjust follow these steps:

- a. Turn off the Transmitter and note if any interference is present by monitoring the Receiver RF Bargraph or Audio Output.
- b. Turn the Squelch Control clockwise until the interference disappears. In extreme cases it may not be possible to remove the unwanted interference and in this case it is recommended you try an alternative channel.

Note: the Squelch Control affects the operating range of the system and with the Squelch set to maximum, the range will be significantly reduced.

3. **RECEIVER AF GAIN ADJUST.**

The S4.16 receiver gain is continuously adjustable between Mic and Line level.

Should the receiver signal be too high it will distort your mixer/amplifier. If the signal is too low the result will be an increase in general background noise.
Adjust this control to achieve the best signal quality.

4. **BATTERY INFORMATION.**

Please note that this product is designed to be used with a 9V Alkaline battery. Should you use a rechargeable cell, be sure not to force it into the battery compartment as some types can be considerably larger than standard types and note that the operation time will be much reduced.

5. **LOW-BATTERY STATUS INDICATOR ON TRANSMITTERS.**

In normal circumstances, with the use of an Alkaline 9V battery, the Transmitters should provide approximately 10hrs of continuous use. Should the Battery indicator go out, it is advisable to change the battery as soon as possible.

FAULT-FINDING.

In the event of a problem it is worth checking the following check list.

1. **No RF Signal Indication on Receiver!**

- a. Are the Receiver and Transmitter on the same channel?
- b. Is the battery fresh in the Transmitter and the battery indicator lit?

2. **No Audio Signal!**

- a. Is the AF Gain Control set correctly on the Receiver?
- b. Is the Squelch Control set correctly (Normally mid-position).?
- c. Is the MIC/INST switch in the correct position on the Beltpack?

CHANNEL 38 INFORMATION

For Band G3 606-614MHz

Up to 8 Frequency Set (Entertainment)		Up to 4 Frequency Set (Community)		Up to 4 Frequency Set (Broadcast)	
Position	Frequency	Position	Frequency	Position	Frequency
1	606.600	1		1	
2	607.500	2		2	
3	608.150	3		3	
4	609.150	4		4	
5	609.950	5		5	
6	610.550	6		6	
7	611.250	7		7	
8	613.150	8		8	
9		9	607.825	9	
10		10	608.825	10	
11		11	610.250	11	
12		12	610.900	12	
13		13		13	606.950
14		14		14	608.500
15		15		15	609.500
16		16		16	611.600

These three frequency sets are designed to be standalone sets. They are not compatible with each other.

OPTIMUM FREQUENCY CONFIGURATION

For Band G4 616-630 MHz

Up to 4 Frequency Set		Up to 8 Frequency Set		Up to 12 Frequency Set	
Position	Frequency	Position	Frequency	Position	Frequency
2	617.725	1	616.775	1	616.775
5	620.400	4	619.650	2	617.725
9	622.825	5	620.400	3	618.100
12	626.550	9	622.825	4	619.650
		11	624.425	5	620.400
		12	626.550	6	620.850
		13	627.425	9	622.825
		16	629.950	11	624.425
				12	626.550
				13	627.425
				14	628.550
				16	629.950

Trantec recommend that 12 frequencies is the largest set that can be used with the S4.16

OPTIMUM FREQUENCY CONFIGURATION

For Band EA 854-865 MHz

Up to 4 Frequency Set		Up to 8 Frequency Set		Up to 12 Frequency Set	
Position	Frequency	Position	Frequency	Position	Frequency
1	863.150	1	863.150	1	863.150
2	863.725	2	863.725	2	863.725
3	864.150	3	864.150	3	864.150
4	864.850	4	864.850	4	864.850
		6	855.900	5	854.900
		8	856.575	6	855.900
		12	859.500	8	856.575
		16	861.750	9	857.950
				12	859.500
				13	860.400
				14	860.900
				16	861.750

For Band UH 719-744 MHz

Up to 4 Frequency Set		Up to 8 Frequency Set		Up to 12 Frequency Set	
Position	Frequency	Position	Frequency	Position	Frequency
1	742.075	1	742.075	1	742.075
2	742.800	2	742.800	2	742.800
3	743.300	3	743.300	3	743.300
4	743.975	4	743.975	4	743.975
		5	719.125	5	719.125
		7	722.700	6	720.475
		9	726.425	8	725.025
		15	739.525	9	726.425
				11	730.500
				13	732.925
				14	733.825
				15	739.525

Trantec recommend that 12 frequencies is the largest set that can be used with the S4.16

OPTIMUM FREQUENCY CONFIGURATION

For Band C1 794-806MHz

Up to 11 Frequency Set Up to 5 Frequency Set

Position	Frequency	Position	Frequency
1	794.250	1	
2	794.600	2	
3	795.050	3	
4	795.600	4	
5	796.500	5	
6	797.700	6	
7	799.250	7	
8	800.900	8	
9	801.600	9	
10	803.350	10	
11	804.450	11	
12		12	803.150
13		13	803.525
14		14	804.575
15		15	805.075
16		16	805.750

These two frequency sets are designed to be standalone sets. They are not compatible with each other.

For Band E3 671-698 MHz

Up to 4 Frequency Set Up to 8 Frequency Set Up to 12 Frequency Set

Position	Frequency	Position	Frequency	Position	Frequency
1	671.000	1	671.000	2	671.250
3	671.625	3	671.625	3	671.625
6	673.875	4	672.125	4	672.125
10	683.750	5	672.875	5	672.875
		6	673.875	6	673.875
		7	675.250	7	675.250
		9	681.000	8	677.250
		12	688.375	9	681.000
				10	683.750
				11	685.875
				12	688.375
				14	692.875

Trantec recommend that 12 frequencies is the largest set that can be used with the S4.16

OPTIMUM FREQUENCY CONFIGURATION

For Band C8 821-832 MHz

Up to 8 Frequency Set		Up to 8 Frequency Set	
Position	Frequency	Position	Frequency
1	823.225	1	
2	824.825	2	
3	826.025	3	
4	826.625	4	
5	828.625	5	
6	829.625	6	
7	831.025	7	
8	831.825	8	
9		9	823.175
10		10	825.175
11		11	825.875
12		12	826.775
13		13	828.975
14		14	830.075
15		15	831.375
16		16	831.875

These two frequency sets are designed to be standalone sets. They are not compatible with each other.

For Band C6 819.1-823.1 MHz

Up to 7 Frequency Set		Up to 6 Frequency Set		Up to 5 Frequency Set	
Position	Frequency	Position	Frequency	Position	Frequency
1	819.150	1		1	
2	819.400	2	819.400	2	819.400
3	820.400	3		3	
4	821.150	4		4	
5	821.775	5		5	
6	822.275	6		6	
7	822.650	7		7	
8		8	820.150	8	
9		9	820.775	9	
10		10	821.900	10	
11		11	822.275	11	
12		12	822.775	12	
13		13		13	820.525
14		14		14	821.400
15		15		15	822.400
16		16		16	822.900

These three frequency sets are designed to be standalone sets. They are not compatible with each other.

**TECHNICAL SPECIFICATIONS:
OVERVIEW.**

Fully synthesised 16 channel PLL Quartz Controlled FM Wireless Microphone System incorporating a Dual Conversion Diversity Receiver with Integral Audio Dynamics Processor.

OPERATING FREQUENCIES

SET 1: 863.150 863.725 864.150 864.850 854.900 855.900 856.175 856.575
(EA) 857.950 858.200 858.650 859.500 860.400 860.900 861.200 861.750

SET 2: 742.075 742.800 743.300 743.975 719.125 720.475 722.700 725.025
(UH) 726.425 728.525 730.500 731.350 732.925 733.825 739.525 741.025

SET 3: 606.600 607.500 608.150 609.150 609.950 610.550 611.250 613.150
(G3) 607.825 608.825 610.250 610.900 606.950 608.500 609.500 611.600

SET 4: 794.250 794.600 795.050 795.600 796.500 797.700 799.250 800.900
(C1) 801.600 803.350 804.450 803.150 803.525 804.575 805.075 805.750

SET 5: 616.775 617.725 618.100 619.650 620.400 620.850 621.775 622.200
(G4) 622.825 623.250 624.425 626.550 627.425 628.550 629.400 629.950

SET 6: 671.000 671.250 671.625 672.125 672.875 673.875 675.250 677.250
(E3) 681.000 683.750 685.875 688.375 691.375 692.875 696.125 697.725

SET 7: 819.150 819.400 820.400 821.150 821.775 822.275 822.650 820.150
(C6) 820.775 821.900 822.275 822.775 820.525 821.400 822.400 822.900

SET 8: 823.225 824.825 826.025 826.625 828.625 829.625 831.025 831.825
(C8) 823.175 825.175 828.875 826.775 828.975 830.075 831.375 831.875

TECHNICAL SPECIFICATIONS:-

AF S/N RATIO:	> 100dBA
AF FREQUENCY RESPONSE:	Handheld 80Hz – 16KHz +/- 3dB. Beltpack 60Hz – 16KHz +/- 3dB
AF THD:	less than 1%
OPERATING TEMPERATURE RANGE:	-10 ⁰ - +45 ⁰ C / 95 relative humidity.

RECEIVER

OPERATING VOLTAGE:	12V @ 100mA
FIRST IF FREQUENCY:	55.875MHz
SECOND IF FREQUENCY:	10.700MHz
AF OUTPUT:	Variable to +10dBu unbalanced via 1/4 inch mono Jack socket. +16dBu Balanced via XLR 3F connector Pin 2 +.
INDICATORS:	4 position RF Bargraph, AF peak (overload), Power, Diversity A/B.
CONTROLS:	Channel select, AF output, Squelch.
DIMENSIONS:	35 × 213 × 98mm.
WEIGHT:	Approx 580g

HANDHELD TRANSMITTER

OPERATING VOLTAGE:	9V @ <50mA.
OPERATING TIME:	approx 10 hours.
OUTPUT POWER:	10mW max.
CONTROLS:	Frequency select, on-off switch.
INDICATORS:	Battery status Led.
TRANSDUCER TYPE:	Dynamic with Cardioid pattern.
DIMENSIONS:	280 x 50mm max. (including grille)
WEIGHT:	Approx 210g

BELTPACK TRANSMITTER

OPERATING VOLTAGE:	9V @ <50mA.
OPERATING TIME:	approx 10 hours.
OUTPUT POWER:	10mW max.
CONTROLS:	Frequency select, on-off switch, Lapel/Instrument switch, Gain adjust.
INDICATORS:	Battery status Led.
CONNECTORS:	AF input via 3.5mm socket. Tip = Audio. Ring + sleeve = Gnd.
LP2 LAVALIER MICROPHONE:	Back electret condenser microphone with omni-directional pattern.
DIMENSIONS:	60 x 100 x 30mm mm including belt clip.
WEIGHT:	Approx 90g
TYPE APPROVALS.	ETSI 300-422, FCC pt 74 h.

DECLARATION OF CONFORMITY:

This equipment is in compliance with the essential requirements and other relevant provisions of Directives 1999/5/EC, 89/336/EC or 73/23EC.

GUARANTEE:

ALL Trantec products are guaranteed for a period of one year from date of purchase against defects in materials and workmanship. In the event of a claim under guarantee the system should be returned to your dealer in its original packaging and with proof of purchase. Defects caused by modification, mis-use or accident are not covered by this guarantee. E&OE Due to our continual policy of research and development we reserve the right to alter specifications without prior notice.

10/06

More information available at: (USA) www.toaelectronics.com
(Canada) www.toacanada.com

Notice:

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

IMPORTANT NOTE:

To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



TOA Corporation

URL: <http://www.toa.jp/>

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