Operating Instructions Digital Ally DVM-900 Wireless Microphone System

Items included in this package with part numbers

Description	DA Part Number	Model Number
Remote Transceiver	DVM900-RMT	DVM-RMT
In-Car Transceiver	DVM900-ICT	DVM-ICT
ICT Mount Antenna	DVM900-INA	DVM-INA
Magnetic Roof Mount Antenna	DVM900-EXA	DVM-EXA
In-Car Charger Cradle	DVM900-ICC	DVM-ICC
In-Car Charger Cable	DVM900-CCC	DVM-CCC
Wall-Wart Home Office Charger	DVM900-WWC	DVM-WWC
Belt Clip	DVM900-RBC	DVM-RBC
Lapel Microphone	DVM900-ELM	DVM-ELM

System description:

The DVM-900 wireless microphone system operates as part of Digital Ally's in-car DVR (digital video recorder) system.

The DVM-900 wireless microphone system consists of 2 transceivers. The first transceiver, called the In-Car Transceiver (DVM-ICT), is mounted inside the DVM.

The second transceiver, called the Remote Transceiver (DVM-RMT), is carried by the patrolman either on his belt or lapel. The Remote Transceiver is a self-contained unit, which includes an internal microphone, external microphone/charge jack, battery charge terminals, internal rechargeable battery, internal antenna, and 2 buttons for Standby/Off and Transmit Record On/Off.

The system operates in the 900 MHz ISM (Instrument Scientific Medical) band and is license free. The system range is 1000 feet. The DVM-900 wireless microphone system uses Frequency Hopping Spread Spectrum (FHSS) Narrow Band FM, which provides excellent privacy, security and avoidance of interference.

In-Car Transceiver Model Number DVM-ICT

Operating Instructions:

During setup of the DVR, the operator shall program the In-Car Transceiver. The Remote Transceiver security codes shall also be programmed at DVR setup time by sending the command to SYNC from the DVR to the In-Car Transceiver via the SPI bus. The In-Car Transceiver will then automatically exchange security information with up to two nearby Remote Transceivers that are in ready to SYNC mode.

To synchronize the In-Car Transceiver to a new Remote Transceiver, the remote can either be placed in its charging base or the remote can be placed in ready to SYNC mode by turning it on and pressing and holding the REC button for 2 seconds while continuing to hold down the power button. If the Remote is placed in ready to SYNC mode while not in the cradle, the three LEDs shall blink in sequence from red to yellow to green and repeat upon entering programming mode. The command to SYNC must then be sent from the DVR to the ICT. The In-Car Transceiver will first attempt a link confirmation with its one or two previously assigned Remote Transceiver units. When it cannot find any previously assigned Remote Transceivers, it will enter the low power programming mode and attempt to program the new Remote Transceiver. When finished programming, all 3 LEDs shall be ON for 1 second to indicate that programming was effective. A remote that was programmed while not in a charger shall enter Standby mode.

To synchronize the In-Car Transceiver with a second Remote Transceiver, remove the first Remote Transceiver from the charging base (if it was programmed in a charging base) and turn it on by pressing and holding the PWR button. Insert the second Remote Transceiver into the charging base or the second remote can be placed in synch mode by turning it on and pressing and holding the REC button for 2 seconds while continuing to hold down the power button. The command to SYNC the second remote must then be sent from the DVR to the ICT. The In-Car Transceiver will confirm the first Remote Transceiver and then proceed to program the second Remote Transceiver.

If the second Remote Transceiver unit is confirmed, the process is completed and the In-Car Transceiver shall update the STATUS Register to indicate the number of remotes it has found.

Only two Remote Transceivers can be synchronized to an In-Car Transceiver at any point in time.

The In-Car Transceiver will add together the audio from the two Remote Transceivers synced to it into a single audio path to be sent to the DVR. If one unit is out of range or is not transmitting, that audio path will be muted.

General Specifications:

Operating Frequency Range	902 – 928 MHz
Operating Voltage	5 VDC
Frequency Hopping Sequences	32,768
Frequencies per Sequence	16
Audio Output	250 mV RMS
Range	1000 ft

FCC Information:

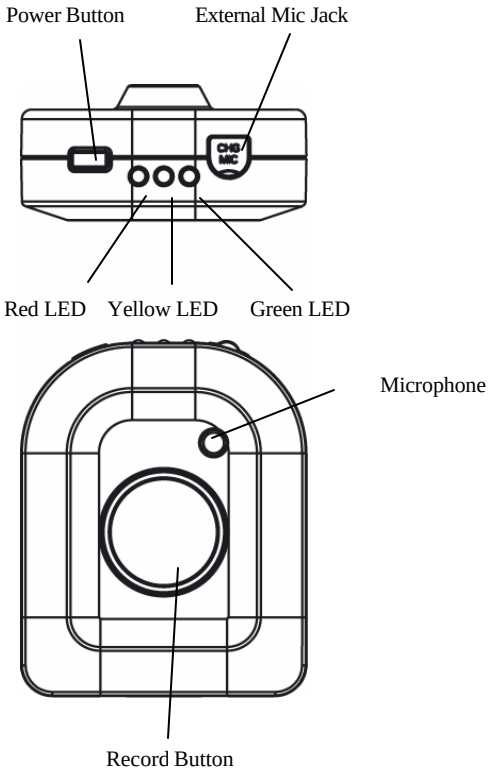
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

An FCC license is not required for operation of this device.

Important:

Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

Remote Transceiver Model Number DVM-RMT



Operating instructions:

The Remote Transceiver has an internal 550 mA hour rechargeable battery pack. Prior to the first use the battery should be charged for 12 to 15 hours. The Remote Transceiver can be charged through its charge terminals located on the bottom of the unit while placed in the In-Car Charger (DVM-ICC) or through the external mic/charge jack with the Wall Wart Charger (DVM-WWC).

After the battery is charged, the Remote Transceiver must be synchronized to the In-Car Transceiver.

To synchronize or resynchronize the In-Car Transceiver to one or two Remote Transceivers, place the Remote Transceiver unit(s) into the In-Car Chargers and issue the sync command from the DVM. The In-Car Transceiver will first attempt a link confirmation with assigned Remote Transceiver units in or out of their charging bases. Assigned Remote Transceivers that are not in use should be turned off or placed out of range of the In-Car Transceiver to avoid unintentional resynchronization with units not in use.

The In-Car Transceiver will confirm synchronization via the status register. If two Remote Transceiver units are found and confirmed, the process is completed.

If only one Remote Transceiver unit is found and confirmed, the In-Car Transceiver will enter programming mode on the special low-power synchronization channel and attempt to program the current security and channel information into the next Remote Transceiver unit available in charge mode that it can find. If the programming attempt fails to find a second Remote Transceiver, the status will be updated to indicate that one remote is synchronized to the In-Car Transceiver.
Only two Remote Transceivers can be synchronized to an In-Car Transceiver at one time.

Buttons and Modes of Operation

Charge Mode	Yellow LED turns ON while in charge mode, then periodically blinks OFF from 1 to 4 times to indicate level of battery charge. Battery 0%-25% 1 Yellow Blink Battery 50% 2 Yellow Blinks Battery 75% 3 Yellow Blinks Battery 100% 4 Yellow Blinks
Standby Mode	Green LED blinks ON every 3 seconds to indicate RMT is able to transmit and receive communications. Yellow LED blinks ON every 3 seconds to indicate 25% charge left.
Record Mode	Red LED turns ON steady while in active record mode. Changes to Yellow LED any time the RMT determines it is out of range of the ICT. Yellow LED blinks ON every 3 seconds to indicate 25% charge left.
Programming	While in ready-to-sync mode, the three LEDs shall blink for 148ms in sequence from red to yellow to green and repeat until the ICT has started to reprogram the RMT with the new security code and channel combination. The green and red LEDs will alternately flash while programming is taking place. When programming is complete, all three LEDs will turn on for 1 second, then revert to charge mode or standby.
Power Button	The green LED will turn ON for the duration of the Power Button press up to 1 second. If held for 1 second when the RMT is in the OFF mode, the RMT will enter the Standby mode. Subsequently, if the RMT unit is currently synchronized with an ICT, the RMT will rapidly flash the green LED and attempt a comfirmation with the ICT.

If it is not synchronized with an ICT, the green LED will flash one time and begin the normal Standby mode blinking of 1 time every 3 seconds.
A momentary press and release of the Power Button will indicate the Power On status of the RMT. If the unit is in Standby mode, the green LED will flash one time after release and remain in the Standby mode. If the unit is in OFF mode, the green LED will remain off after the button release.

The Remote Transceiver LED indicators may be turned OFF by the user for those conditions where the bright light emitted from them is undesirable. The LEDs will always default to ON when the unit is powered on. The ON/OFF state of the LEDs can not be changed when the unit is OFF or in the charging mode.

The initial factory setting is for the LED indicators to be ON.
If the LEDs are ON, two quick presses of the record (REC) button within 1 second will turn the LEDs OFF.

If the LEDs are OFF, two quick presses of the record (REC) button within 1 second will turn the LEDs ON.

Pressing REC or PWR with the LEDs OFF will temporarily override the disable to allow confirmation that the communications link status has changed.

Placing the Remote Transceiver into the charge mode will enable LEDs ON.

The Remote Transceiver Wireless Microphone can be switched between TRANSMIT (Audio), On-STANDBY, and OFF. In the TRANSMIT mode the Wireless Microphone is fully operational and is transmitting audio and receiving continuously. In the STANDBY mode, the transmitter is turned off and the unit can only receive.

Inserting the Remote Transceiver unit into the charging cradle will turn the unit ON, enabled only for synchronization and confirmation operations. The unit will enter the OFF mode upon removal from the charging cradle.

Inserting the Remote Transceiver unit into the charging cradle during an active recording session will cause the Remote Transceiver to stop transmitting audio and to transmit a data packet with the security code and the turn off command to the ICT unit to stop sending audio.

Selection of TRANSMIT Audio mode is by push button on the remote transceiver or by a coded command from the DVR.

Selection of STANDBY mode is by push button on the remote transceiver or by a coded command from the DVR.

Battery Replacement:
The Remote Transceiver is equipped with an internal 550mAhr NiMH battery pack that should supply 2-3 years of use. When the battery reaches the end of its life it should be replaced with the exact Digital Ally replacement part. Contact the Digital Ally Service Department to obtain a replacement battery.

General specifications

Operating Frequency Range	902 – 928 MHz
Operating Voltage	3.3 to 4.5 VDC
Frequency Hopping Sequences	32,768
Frequencies per Sequence	16
Range	1000 ft

FCC Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Important:

FCC RF Exposure Requirements: For body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines. Use of accessories other than the supplied accessories may not ensure compliance with FCC RF exposure guidelines. Use only the supplied accessories. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

An FCC license is not required for operation of this device.