MACOM
GOVERNMENT PRODUCTS, INC.

MICRO-TEL & REACTION INSTRUMENTS

DRD-3572
DIGITALLY REFRESHED DISPLAY

FEATURES

- Compatible with SMR-3500 Series Receivers
- High-Contrast, Digitally Refreshed EL Display
- Wideband RF Scan and IF Pan Display Modes
- High Dynamic Range
- Frequency and Amplitude Measurements
- Adjustable Auto-Stop Threshold
- Peak Search Function

DESCRIPTION

The DRD-3572 Digitally Refreshed Display is designed for use with the SMR-3500 Series of Receivers. The unit can be operated in both an RF-scan (F_1-F_2) mode matched to the tuner sweep, or in an IF Pan (SDU) mode for set-on frequency analysis. In the SDU mode, the display uses direct digital synthesis to ensure absolute frequency accuracy for each horizontal pixel across the screen. The IF input from the receiver is refreshed and displayed on a 320 x 256 dot matrix, electroluminescent display panel. Text describing signal and receiver parameters appears above and below the signal activity area. Active soft-key functions, such as freeze, resolution bandwidth, markers, auto-stop threshold, decay rate, are labeled on the bottom of the screen, directly above the appropriate soft key. Three dedicated function keys provide peak search, marker to center frequency, and erase functions.

A rotary-knob optical encoder permits either marker positioning or threshold level adjustment. Two markers are available which can be positioned over the full range of the F_1-F_2 sweep, or over the full scan of the SDU mode. Alphanumeric frequency and amplitude information will be displayed for each marker; in addition, the difference in frequency and amplitude values between the two markers is continuously displayed. Amplitude at the antenna input of the receiver can be displayed on the DRD-3572 by entering the receiver gain via soft key. Threshold levels can be set with the encoder to perform an auto-stop of the receiver when sweeping. The selected signal level can be adjusted over a 70 dB range. Once the receiver is auto-stopped, the signal can be centered on the display using the marker to center frequency feature.

The decay rate of displayed activity is selectable - real time, medium, slow and peak hold - by means of a soft key. This feature applies to both RF-Scan and SDU modes of operation.

When in the RF-scan mode, horizontal (X-axis) signals from the receiver control sweep rate and width. In the SDU mode, sweep rate and width are continously adjustable from the DRD-3572 front panel; sweep rate is adjustable from 30 milliseconds to 10 seconds, and sweep width, centered on the IF input, can be adjusted down to zero, at which point the display functions in the Zero Span mode.

While in the SDU mode, display resolution bandwidth is automatically optimized for the selected sweep rate and width, or it can be manually selected. The display sweep oscillator is phase-locked in the SDU mode, thus eliminating the need for display-centering controls.

The Zero Span mode permits amplitude vs. time measurements of the modulation signal while the receiver is set to a fixed frequency. This mode exists whenever the SDU sweep width is reduced to zero. The display then functions as an oscilloscope with the horizontal timebase adjustable from 30 ms to 10 seconds, and the vertical scale calibrated in dBm. Timebase triggering provides a synchronized display for easy analysis. A headphone jack provides AM log audio of the signal when the unit is operated in the Zero-Span mode.

Three dedicated function keys adjacent to the screen provide the following functions:

PEAK SEARCH

The peak search function positions the marker to the highest amplitude signal in a trace.

MARKER TO CENTER FREQUENCY

After the marker is set, engaging the marker to center frequency function will tune the receiver to the marker frequency, and position the signal in the center of the screen.

ERASE

This function, which is most useful in slow sweeps, clears the trace from the screen and restarts the sweep.

SPECIFICATIONS

Display	5-inch diagonal, electro-luminescent
Dynamic Range	70 dB Log
Frequency Accuracy (SDU Mode)	+/-100 Hz
Amplitude Accuracy	+/-2 dB at 25°C
Display Size	Vertical: 256 pixels Horizontal: 320 pixels
Input/Output Control	Single-ended RS-422 internal connection to SMR-3500 Series Receiver
IF Input	BNC
Input Frequency	70 MHz, standard (from any SMR-3500 Receiver) 160 MHz, Option 1 (from SMR-3521 or SMR-3522 Receiver with Option 7, 160 MHz IF Output)
Input Impedance	50 ohms
Resolution Bandwidth	10, 3, 1 MHz, 300 kHz, standard Other bandwidths are available within the range of 10 MHz to 300 kHz. Please consult the factory for details.
IF Sweep Width (SDU Mode)	
IF Input: 70 MHz	0 to 40 MHz
IF Input: 160 MHz (Option 1)	0 to 50 MHz
IF Sweep Linearity (SDU Mode)	Synthesized
Sweep Rate (SDU Mode)	30 milliseconds to 10 seconds
Soft keys (six)	Multifunction pushbuttons (Functions include Freeze, Resolution Bandwidth, Markers, Autostop Threshold, Decay Rate, Gain Offset, Test Data)
Dedicated Keys (three)	PEAK SEARCH, MARKER TO CENTER FREQUENCY, ERASE
Optical Encoders (three)	Multifunction SDU sweep width SDU sweep rate
Operating Temperature	0-50°C
Power	115/230, Vac ±10%, 47-420 Hz, 65 watts, maximum
Size	5.25 x 8.5 x 21 inches
Weight	15 lbs.

Specifications subject to change without notice.

ORDERING INFORMATION

A standard Model DRD-3572 Digitally Refreshed Display provides a 70 MHz input, and resolution bandwidths of 10, 3, 1 MHz, and 300 kHz. Other resolution bandwidths within the range of 10 MHz to 300 kHz are available. Please consult factory for details. When ordering, please specify:

DRD-3572	Digitally Refreshed Display
Option 1	160 MHz IF (This option is necessary when the DRD-3572 is used with an SMR-3520 Series Receiver with a 160 MHz IF Output)
	Screen print capability can be made available to allow hard-copy reproduction of the current screen. Please consult the factory for details.

ADDITIONAL EQUIPMENT AVAILABLE IN THE SMR-3500 FAMILY

In addition to the DRD-3572 Digitally Refreshed Display, the following equipment is available in the SMR-3500 Family. Separate data sheets are available upon request.

CP-3501	Receiver Controller
SMR-3521 Frequency Range	Synthesized Microwave Receiver 0.5-20 GHz
SMR-3522 Frequency Range	Synthesized Microwave Receiver 0.5-20 GHz, 500 MHz wide IF Output
SMR-3530 Frequency Range	Synthesized Microwave Receiver 1-12 GHz
SMR-3540 Frequency Range	Synthesized Microwave Receiver 12-18 GHz
SMR-3550 Frequency Range	Synthesized Microwave Receiver 18-26.5 GHz
SMR-3560 Frequency Range	Synthesized Microwave Receiver 26.5-40 GHz
FE-3520 Frequency Range	Frequency Extender 18-40 GHz

WARRANTY

All M/A-COM Government Products equipment is warranted for one year, except for damage cause by accident or misuse, provided the equipment is returned to the plant in Hunt Valley, Maryland.

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