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# Marco's TRS 5100 Total Refraction System



The TRS-5100 and the CP770

IN THE COMPUTING WORLD, there is something known as Moore's Law. Moore's Law says that computer speeds will roughly double every two years. As I look back over the last twenty years, I think we can extrapolate that two other things occur along with Moore's Law. One is that access to information and the volume of information grow at similar rates. Second, larger and more complex interfaces for information exchange develop to meet the growing speed of access and volume of information.

We often forget that the public access Internet is only twenty years old, and that modern desktop personal computers are only thirty years old! Think about how fast we have gone from switchboards and typewriters to smart-phones and tablets.

Twenty years ago, the ECP in optical practices was restricted to working within the twenty-foot confines of the refracting "lane," and relied on a projector still based on the "magic lantern." In the late nineties, we began to see a few "virtual" and computer-driven refracting tools. Ten years ago, "electronic" eye charts were introduced, and eliminated the projector, but still relied on a projected image or chart. Marco introduced a total refracting system that

eliminates many of our antiquated processes, and streamlines most of an exam into one neat package. Marco's TRS-5100 deserves the classification, "a modern marvel."

The TRS-5100 allows for extremely accurate and reliable refractions, minimizes staff variables, reduces time needed for the refraction, and eliminates transcription errors by smoothly integrating with EMR systems.

The TRS-5100 has:

- A large 8.4-inch full color touch screen for user-friendly interface. The touch screen allows for quick and easy guidance through the instruments' different functions without the need to fumble with a separate keyboard, or ever removing the doctor or technician's hands from the touchscreen.
- Intelligent cross-cylinder, allowing for much faster, more accurate exams for the astigmatic patient. Side-by-side comparisons of prescription changes allow for quicker assessments, and eliminate some of the subjective problems

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associated with the traditional “Which is better, one or two?” method.

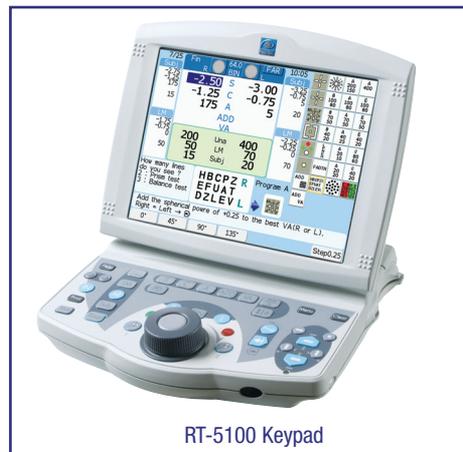
- Comparisons of the daytime and nighttime prescriptions are presented in an instant, allowing the patient to make informed decisions, which can generate additional revenue.
- Multiple near tests to replicate near, intermediate and those unusual or “in-between” distances that patients have to deal with. The TRS-5100 includes instant power and convergence matching, so the patient is evaluated at near distances with their eyes in their natural position.
- The screen tilts for near testing to replicate the angles found on mobile devices, computer monitors and special work environments.
- The near lights are built-in to the TRS 5100 and automatically illuminate the test card when near testing is initiated, for increased efficiency while providing the appropriate light level for determining near add.
- One-touch toggle for “Quick Refract” sequence. The TRS-5100 can scroll through a set of predetermined steps, automatically changing the lenses as required, allowing for a consistent and predictable patient experience for routine prescription changes.
- Ability to compare old Rx (or auto-refractor findings) to subjective Rx at the push of a button, in less than one second. Reduced time eliminates patient apprehension and greatly reduces the subjective “second-guessing” found in manual refractor settings and comparisons.

This last point, the ability to compare an old Rx to a subjective Rx instantly, is not only important from the patient’s perspective in making that comparison, it also important when considering the practitioner. If you see 3,000 patients a year and adjust the phoropter even four times during each patient’s refraction, you’ve repeated that motion 12,000 times a year. If your practice spans twenty years, you will potentially perform that repetitive motion 240,000 times or more. The ergonomics of

using a manual refractor to accomplish those 240,000 twists, arm lifts, shoulder rotations and hand movements can lead to physiological and anatomical problems over time.

The TRS-5100 allows the practitioner to remain in a comfortable, forward-facing position, seated in an ergonomically correct chair, to perform the refraction process. This significantly reduces the likelihood of repetitive motion injuries. The TRS-5100 patient interface allows for both a more comfortable exam and greater patient-doctor interaction. The TRS-5100 automatically adjusts for vertex distance and patient PD, so there is no need for patient-to-patient resetting. The keypad has a centrally located S/C/A keyset function for instant changes in sphere, cylinder and axis, all with one hand. All recorded test results are uploaded to the EMR, can be printed out as a hard copy for back-up, patient review, and side-by-side comparison. The TRS-5100 can be pre-programmed to run the same series of diagnostic tests on each patient to best meet your office patient flow and standardize the patient experience.

The TRS-5100 was developed to give you and your patients the most satisfying examination experience possible. It offers: speed, automation, easy set-up, wireless connections, rapid operational response, improved patient throughput, and office efficiencies. Increasing regulatory demands, managed care, competition, and sheer patient volume is forcing us to see more patients in less time. Instruments that improve both accuracy and speed mean we can do that with no compromise in quality of care.



RT-5100 Keypad

The TRS utilizes a dedicated micro-processor to provide stable real-time functionality without computer based operating system concerns. Dedicated systems provide for EMR/EHR integration, target-specific test selection and chart responsiveness. Integration of the TRS with the EMR eliminates the need for transcription or additional note taking, saving the time these processes use in the manual refractive sequence.

Marco Connect is an EMR software package that Marco provides to all EMR systems. Marco digital instruments connect directly with the system, so that shared data from the “prelim” room (OPD or AR), the auto-lensmeter and the examination data is seamlessly transferred to the patient record. Data communication also allows you to preload your patient’s old prescription from the lensmeter into the TRS, eliminating the initial manual dial-in of “This is your old prescription.”

We live immersed in a world filled with “high-tech” gadgets and gizmos. When we visit our family doctor or our dentist, we see tablets, hi-definition TVs, electronic medical records, instant x-ray results, and digital vital sign monitoring. We expect nothing less from our eye care provider. The way things look really does matter. Make your office look like what it should be: a modern office using the best the industry has to offer in healthcare tools. The TRS-5100’s high-tech look and functionality providing accurate and efficient testing with instant transfer of patient information between office stations creates the “wow” factor of utilizing the latest state-of-the art equipment and assures that your patients will be back again next year.

For you; accurate measurement, design durability, integrity of patient data, patient satisfaction, 40 years of Marco experience and service, warranty protection, and the assurance of operator well-being – avoiding risks of repetitive shoulder & neck injury should provide the security of return on investment, you seek in capital investments. The TRS-5100, like all Marco instruments, offers full training support, both online, and at their Marco Institute of Vision Training. ■